

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

March 31, 1988

TO:

Board of Oil, Gas and Mining

FROM:

David M. Wham, Reclamation Hydrologist

RE:

Request for Approval of Form and Amount of Surety, Crystal Peak Minerals Corporation, Sevier Dry Lake Project,

M/027/008-87(1), Millard County, Utah

Recent discussions between Division, Bureau of Land Management and Crystal Peak Minerals Corporation personnel have resulted in modified plan of reclamation for the Sevier Dry Lake solar pond complex. The modified plan has been approved by both the Division and BLM, as we feel it represents a more practical and appropriate approch to final reclamation of the site. Enclosed for your review is the following information:

- 1. An executive summary for the above referenced operation.
- 2. A copy of the proposed cost estimate for reclamation (\$53,000.00 in 1991 dollars).
- 3. A copy of the surety bond held by the BLM in the amount of \$53,000.00.
- 4. A copy of a February 29, 1988 letter from Donald Pendleton, District Manager, BLM; to the Chairman of the Board of Oil, Gas and Mining, providing clarification of the BLM held surety.

The Division seeks the Board's concurrence on the form and amount of surety for this project. Please refer to the attached documents for a general description of the project.

dmw Attachments 0457R/105

EXECUTIVE SUMMARY - PERMIT AMENDMENT (March 31, 1988)

Mine Name: Sevier Dry Lake Project I. D. No.: M/027/008-87(1) Operator: Crystal Peak Minerals Corp. County: Millard P.O. Box 3006 New/Existing: Existing Houston, Texas 77253-3006 Mineral Ownership: BLM and State Telephone: 713-529-3755 Surface Ownership: BLM and State Contact Person: Mr. William V.H. Clarke Lease No.(s):			
Life of Mine: 2 to 3 year pilot phase Permit Term: 5 yr.			
Legal Description: Portions of Sections 1-12, 15-18, Township 24 South, Range 12 West; and Sections 34-36, Township 23 South, Range 12 West, SLBM, Millard County, Utah			
Mineral(s) to be Mined: Potassium and associated mineral salts			
Mining Methods: Solar evaporation operation; removal by loaders and scrapers			
Acres to be Disturbed: 53 Acres.			
Present Land Use: None -Alternating wet and dry lake bottom			
Postmining Land Use: None			
Variances from Reclamation Standards (Rule M-10) Granted: None requested			
Soils and Geology:			
Soil Description: Typic Calciorthids-Typic Torriorthents, 0-6" (sandy loam) 6-43"(loam), 43-48" (silty clay loam), 48-60" (clay)			
pH: 8.1 (0-6"), 7.7 (6-43"), 7.5 (43-48"), 7.6 (48-60")			
Special Handling Problems: None			
Geology Description: West flank, Cricket Mtns. colluvial/alluvial bench gravels, Sevier Lake Basin, dry playa surface (historically), (Quaternary/late Pleistocene) Lake Bonneville alluvial sediments, further underlain by (Tertiary volcanics) of basalt, andesite, latite, and rhyolite.			
Hydrology:			

Ground Water Description: Ground water in the area consists of localized perched aquifers and water table conditions associated with the fluctuating lake level. These limited sources are succeeded in depth by entrapped concentrated brine layers beneath the Sevier Lake bed. No significant impacts to groundwater are anticipated.

Page 2 Executive Summary M/027/008-87(1) March 31, 1988

Surface Water Description: Sevier River drains into the lake basin from the north.

Water Monitoring Plan: None proposed due to the saline nature of the water resource.

Ecology:

Vegetation Type(s): No vegetation exists on the lake floor.

Percent Surrounding Vegetative Cover: None

Wildlife Concerns: Minimal concerns, limited wildlife use, no T & E species

Surface Facilities: No permanent construction as part of this amendment.

Mining and Reclamation Plan Summary: See attached summary.

Surety:

Amount: \$53,000 (total surety required for all approvals to date)

Form: Bond (held by the BLM in accordance with Memorandum of Understanding)
Renewable Term: None, however the surety amount is calculated in 1990 dollars.

0457R/102-103

The Board of Oil Gas & Mining hereby accepts the reclamation bond in the amount of \$53,000.00 held by the Bureau of Land Management for reclamation of the property described in the Executive Summary above.

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES, BOARD OF OIL, GAS AND MINING

Gregory P. Williams, Esq.

Chairman, Board of Oil, Gas and Mining

ATTACHMENT

Mining and Reclamation Plan Summary Crystal Peak Minerals Corporation Sevier Dry Lake Project M/027/008-87(1) March 31, 1988

Planned construction, all within the meander line of the lake, includes 12.8 miles of new clay dikes, approximately 15.0 miles of collection ditch, and a ten acre pilot pond system. Operations will consist of pumping 20,000 acre feet of lake brines into the new pond system and operation of the smaller pilot pond circuit. Dike construction under this amendment will enclose an additional 7,000 acres of lake surface. Including the 3,000 acres enclosed in 1987, this will bring the total pond area to nearly 10,000 acres. Of the 12.8 miles of new dike to be built in 1988, 3.1 miles will be interior dike in the 1987 area and 9.7 miles will frame the new ponds.

During Operations:

- 1. The proposed construction will disturb approximately 53 acres of state and federal land. Dikes will be constructed by employing draglines working on large wooden mats excavating lake sediments immediately adjacent to the dike alignment. The dikes will range from five to eight feet in height, depending on the contour. The base of the dikes would typically be a ratio of 2.5 X the height.
- 2. The brine collection ditch will be extended northward as the lake water recedes. At its current rate of decline, the lake should be essentially dry by the fall of 1988. Initially, the brine collection ditch will be dug to a depth of twelve feet with an anticipated width of twelve feet. The ditch will be excavated with a dragline operating in much the same manner as in the dike construction.

Following Operations:

Eventual reclamation of the dikes and ditches on the lake bed will be accomplished by deliberate flooding using existing pumps and brine collection systems. The evaporation pond complex will be sequentially flooded using the existing topographic features. The effect of the flooding will be to flatten dikes and fill adjacent trenches.

The estimated costs for the proposed action in 1988 dollars are:

(1)	Pump rehabilitation and	
	pump maintenance	
	@ 25% of fuel costs	3,500
(2)	Fuel costs @ \$.70 gal	0,000
	@ known fuel consumption rates	14,000
(3)	Labor, vehicle and support	,000
	costs @ \$20/hr @ 6 months	20,000
		37,500
	Contingency @ 10%	3,800
	Subtotal	41,300

The above cost estimate is in substitution for all previous estimates associated with pond system reclamation. The following estimates apply to previously approved reclamation costs for project works not sited on the lake bed (1987 and 1988 Mining Plans):

1) 2) 3) 4)	Borrow Area, Grade and Contour* Borrow Area, Revegetate* Water Well Plugging* Campsite Reclamation Contingency @ 10%	1,100 6,800 5,000 3,500 16,400 1,600 18,000
* T.c	ass moslometical and a	

Tegs recramacion work combleted	
and awaiting site inspection	
by the State	8,800
Subtotal	9,200

Combined Reclamation Surety Required for CPMC

Construction - 1990 Construction Total 1988 Dollars	9,200 41,300 50,500
Total 1990 Dollars(*)	52,900

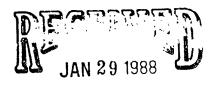
^{*} Escalation through 1990 @ 2.3%/yr

The total amount of reclamation bonding thus required is \$52,900. This amount is sufficient to ensure adequate reclamation for permitted work to date



United States Department of the Interior

BUREAU OF LAND MANAGEMENT UTAH STATE OFFICE 324 SOUTH STATE, SUITE 301 SALT LAKE CITY, UTAH 84111-2303 3504 U-37863 et al. (U-942)



FEB 5 1987

DIVISION OF OIL, GAS & MINING

DECISION

Crystal Peak Minerals Corporation c/o Pruitt, Gushee & Fletcher Suite 1850 Benefical Life Tower Salt Lake City, UT 84111

Potassium

U-37863 through U-37912

Bond Accepted

A \$53,000.00 statewide minerial lease bond (No. 8112-68-53) covering potassium prospecting permits U-37863 through U-37912, inclusive, with Crystal Peak Minerals Corporation as principal and Federal Insurance Company as surety, was filed with this office on January 22, 1987. The bond has been examined, found to meet the requirements of 43 CFR 3504.1-5, and is accepted as of the date of filing.

Chief, Minerals Adjudication Section THIS BOND EXECUTE

DUPLICATE

Bond No. 8112-68-53

Form 3104-3 (July 1974)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

Serial Number

STATEWIDE OR NATIONWIDE MINERAL LEASE BOND (EXCEPT OIL AND GAS)

KNOW ALL MEN BY THESE PRESENTS, That we, CRYSTAL PEAK MINERALS CORPORATION

Salt Lake of the county of

, in the State of Utah

as principal, and FEDERAL INSURANCE COMPANY

Somerset of the county of

New Jersey in the State of

, as surety, are held and firmly bound unto the United States

of America in the sum of Fifty Three Thousand and No/100-

(\$ 53,000.00

) lawful money of the United States, for which payment, well and truly to be made, we, by these presents, bind ourselves, and each of us, and each of our heirs, executors, administrators, successors, and assigns, jointly and severally, upon the following conditions, viz;

If the amount of this bond is \$75,000, or if it is raised by an attached rider to that amount, coverage shall extend to

all the principal's holdings involving Act or Acts cited in Schedule A.

deposits in the United States, including Alaska, under the

If the amount of this bond is \$25,000, its coverage extends only to the principal's holdings involving Potassium deposits in the State named in Schedule A. Furthermore, such coverage is confined to the holdings under the Public Domain Leasing Act of February 25, 1920 (41 Stat. 437) as amended.

	\$CHEDU	LE A	
Public Domain Leasing Act of February 25, 1920 (41 Stat. 437) as amended and supplemented (30 U.S.C. 181-287)		Acquired Lands Leasing Act of August 7, 1947 (61 Stat. 913; 30 U.S.C. 351-359)	
NAME OF STATE	LEASE NUMBER	NAME OF STATE	LEASE NUMBER
Utah	See attached		
			· I
			!
		\	

The conditions of the foregoing obligations are such that, whereas the said principal, in one or more of the following ways, has an interest in mineral leases issued under the Act or Acts cited in Schedule A of this bond:

- 1. as the lessee of such leases:
- 2. as the approved holder of operating rights in all or part of the lands covered by such leases under operating agreements with the lessees; and
- 3. as designated operator or agent under such leases pending approval of an assignment or operating agreement; and

WHEREAS the principal is authorized to drill for, mine, extract, remove, and dispose of mineral deposits in or under the lands covered by the leases, operating

agreements or designations, and is obligated to comply with certain covenants and agreements set forth in such instruments: and

WHEREAS the principal agrees that the coverage of this bond, in addition to the present holdings of the principal shall extend to and include:

1. Any mineral lease hereafter issued to, or acquired by, the principal affecting mineral deposits in the State or States now named in Schedule A, or later named in a rider, the coverage to be confined in the principal's holdings under the Act or Acts cited at the head of the column in which the name(s) of the State or States appears and to become effective immediately upon such issuance or upon departmental approval of a transfer in favor of the principal.

- 2. Any operating agreement he liter entered into or acquired by the principal, affecting mineral deposits in the States now named in Schedule A, or later named in a rider, relating to mineral leases issued under the Act or Acts cited in Schedule A at the head of the column in which the name of the State is placed. The coverage shall become effective immediately upon departmental approval of the agreement or of a transfer of an operating agreement to the principal.
- 3. Any designation subsequent hereto of the principal as operator or agent of a lessee under a lease issued pursuant to an Act or Acts cited in Schedule A and covering lands in a State named in Schedule A, either presently or by rider. This coverage shall become effective immediately upon the filing of such a designation under a lease.
- 4. Any extension of a lease covered by this bond, such coverage to continue without any interruption due to the expiration of the term set forth in the lease.

WHEREAS the principal hereby agrees that notwithstanding the termination of any lease or leases, operating agreements or designations as operator or agent, covered by this bond, whether the termination is by operation of law or otherwise, the bond shall remain in full force and effect as to any remaining leases, operating agreements, or designations covered by the bond; and

WHEREAS the principal as to any lease or part of a lease for lands as to which he has been designated as operator or agent, or approved as operator, in consideration of being permitted to furnish this bond in lieu of the lessees, agreed and by these presents does herebybind himself to fulfill, on behalf of each lessee, all the obligations of each such lease for the entire leasehold in the same manner and to the same extent as though he were the lessee; and

WHEREAS the principal agrees that notwithstanding any use of the security pledged herewith for the purpose for which it is pledged, the bond shall remain in full force and effect in the sum above set forth and that he will, whenever so required by the lessor, deposit additional security to bring the security up to the full amount; and

WHEREAS the principal agrees that the neglect or forbearance of said lessor in enforcing, as against the lessees of such lessor, the payment of rentals or royalties or the performance of any other covenant, condition, or agreement of the leases, shall not, in any way, release the principal from any liability under this bond; and

WHEREAS the principal agrees that in the event of any default under the leases, the lessor may commence and prosecute any claim, suit, action, or other proceeding against the principal without the necessity of joining the lessees.

Now, THEREFORE, If said principal shall in all respects faithfully comply with all of the provisions of the leases referred to hereinbefore, then the above obligations are to be void; otherwise to remain in full force and effect.

Signed on this 14thday of January

, 1987 , in the presence of:

CRYSTAL PEAK MINERALS CORPORATION

By: William / H. Clarle
(Signature of Principal)

c/o Pruitt, Gushee & Fletcher

1850 Beneficial Life Tower Salt Lake City, Utah 84111

(Address of Principal, include zip code)

[SEAL]

FEDERAL INSURANCE COMPANY

n + n

hilip N. Bair (Signature of Surety) Attorney-in-Fact

1990 Post Oak Boulevard Suite 1100

Houston, Texas 77056

(Business Address of Surety, include zip code)

SCHEDULE A

	Serial No.	
U-37875	u-37876	บ-37877
บ-37878	บ-37879	U-37880
บ-37881	U-37882	U-37883
U-37884	U-37885	U-37886
บ-37887	U-37863	U-37864
บ-37865	U-37866	U-37867
บ-37868	·· U-37869	U-37870
บ-37871	U-37872	U-37873
U-37874	U-37888	U-37889
บ-37890	U-37891	U-37892
U-37893	U-3789 4	บ-37895
บ-37896	บ-37897	บ-37898
บ-37899	บ-37900	บ-37901
U-37902	บ-37903	U-37904
U-37905	U-37906	บ-37907
บ-37908	U-37909	U-37910
U-37911	U-37912	

FEDERAL INSURUNCE COMPANY
By

George McCellan

Asalstant Vice-President

STATE OF NEW JERSEY
County of Somerset

SS.

On this 16th day of July 19 85, before me personally came Richard D. O'Connor to me known and by me known to be Assistant Secretary of the PEDERAL INSURANCE COMPANY, the corporation described in and which executed the toregoing Power of Attorney, and the said Richard D. O'Connor being by me duly sworn, did depose and say that he is Assistant Secretary
of said Company, and that he signed said Power of Attorney as Assistant Secretary of said Company, and that he signed said Power of Attorney as Assistant Secretary of said Company, and that the signalure of said George McClettan subscribed to said Power of Attorney is in the genuine handwriting of said George McClettan and knows him to be the Assistant Vice-President
By-Laws and in deponent's presence.

ARICIA A AOLAN SCIAN SCI

TOW JERSE

CERTIFICATION

PATRICIA A. HOLT
NOTARY PUBLIC OF NEW JERSEY

STATE OF NEW JERSEY
County of Somerset

\$\$.

My Commission Expires March 14, 1990

f, the undersigned, Assistant Secretary of the FEDERAL INSURANCE COMPANY, do hereby certify that the following is a true excerpt from the By-Laws of the said Company as adopted by its Board of Direction March 11, 1953 and most recently amended March 11, 1983 and that this By-Law is in full force and effect.

"ARTICLE XVIII.

Section 2. All bonds, undertakings, contracts and other instruments other than as above for and on behalf of the Company which it is authorized by law or its charter to execute, may and shall be executed in the name and on behalf of the Company wither by the Charman or the Vice-Charman or the President or a Vice-President, jointly with the Secretary or an Assistant Secretary, under their respective designations, except that any one or more officers or attorneys-in-fact designated in any resolution of the Board of Directors or the Executive Committee, or in any power of attorney executed as provided for in Section 3 below, may execute any such bond, undertaking or other obligation as provided in such resolution or power of attorney.

Section 3. All powers of attorney for and on behalf of the Company may and shalf be executed in the name and on behalf of the Company, either by the Chairman or the Vice-Chairman or the President or a Vice-President or an Assistant Vice-President, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engraved, printed or inthographed."

I further certify that said FEDERAL INSURANCE COMPANY is duly licensed to transact highly and surerly business in each of the States of the United States of America, District of Columbia, Puerto Rico, and seach of the Provinces of Canada with the exception of Prince Edward Island, and is also duly icensed to become sole surerly on bonds, undertakings, etc., permitted or required by law.

1, the undersigned Assistant Secretary of FEDERAL INSURANCE COMPANY, do hereby certify that the foregoing Power of Attorney is in full force and effect

Corporate Sea



J. Jonneso Assistant Societary

SPECIAL STIPULATIONS
POTASSIUM PREFERENCE RIGHT LEASES
U-37863 THROUGH U-37912

- The dust from the Black Rock Road, parking lots, and other roads will be reduced by spraying Magnesium Chloride on the smooth surface.
- 2. The borrow pits will be sloped and shaped so the pits will appear a wide spot in a draw. Each borrow pit will be designed with a livestock/wildlife pond in it which shall catch precipitation runoff. The catchment ponds will be built so animals could enter the water, drink and safely exit. Once construction is completed and equipment is not disturbing the soil, all areas which are not occupied by roads, structures, parking lots, powerline, etc. will be seeded with the following mix:

SEED	POUNDS PER ACRE
Indian Ricegrass	1/2
Prostrate Kosha	1
Ephraim Crested Wheatgrass	3
Winterfat	1/2

This seed will not be used in areas of high salt concentration, i.e., on dikes or near the salt storage piles, but all viable areas, i.e., borrow pits, well field, powerline, etc. will be seeded.

Top soil from the borrow pits will be stockpiled, then spread over the pits as part of the site rehabilitation.

- 3. Crystal Peak Minerals Corporation shall place a water tap in the process water line so BLM can supply water to livestock/wildlife.
- 4. Crystal Peak Minerals Corporation will insure that eagle perches will be built every .5 mile along the powerline. The perches would be built in accordance with REA Bulletin 61-10, Figure 5. This construction would provide a safe roost for eagles.
- 5. The collection ditches will not be built any further north than necessary and the ditch berms north of the needle point dike will be spread out so they are fairly flat. The dikes throughout the project will be kept to a minimum height as needed for the project. Dikes, buildings, and other structures will be built with materials and colors that blend with the surrounding landscape. The powerline will be constructed with wood poles to blend into the surroundings.
- If previously unknown cultural or paleontological values are discovered during construction, (i.e., excavation) all work will stop and the District Archaeologist will be called to clear the problem.

7. Upon abandonment of the salt extraction operation, the processing plant and associated facilities located on State land (Section 16, under a lease) will be removed. The earth will be returned to a natural contour and reseeded to specifications of the State of Utah.

- 8. The dikes and ponds on BLM land will be restored. if the lake level is high, the dikes will be breached so that wave action would reduce the dikes to the flat bottom of the lake. If the lake is dry, the dike material will be spread to the flat contour of the lake bed. All structures will be removed and the surface returned to a natural contour. The process water wells, if still functional, will become the property of BLM. All disturbed areas will be seeded with the seed mix specified in the soils section of the mitigation portion of the EA.
- The lessee will comply with all State and Federal clear air and water quality regulations and laws.

CRYSTAL PEAK MINERALS CORPORATION

By:
Lessee's Signature
William V.H. Clarke
Vice President

IN REPLY REFER TO: 3590 U-37863 U-37912 (U-052) United States Department of the Interior MAR

BUREAU OF LAND MANAGEMENT RICHFIELD DISTRICT OFFICE 150 EAST 900 NORTH RICHFIELD, UTAH 84701

Whan

RECEIVED

Iterior MAR 2 1988

DIV. OIL, GAS, MINING

CC L. Proutou

K. May DRD. Gwilliams

February 29, 1988

Greg Williams
Chairman of the Board
Utah State Division of Oil, Gas,
and Mining
3 Triad Center, Suite 350
355 West North Temple
Salt Lake City, Utah 84180-1203

Dear Mr. Williams:

We are writing this letter regarding the issue of reclamation bonding for the proposed potash operation on Federal and State lands of Crystal Peak Minerals Corporation. As per the Memorandum of Understanding between the BLM and the State of Utah dated February 14, 1983, the lessee shall post a bond for reclamation of Federal lands with the BLM which shall satisfy the bonding requirements of both agencies.

The lessee presently has a statewide potassium bond in the amount of \$53,000. We have determined that this amount is sufficient for reclamation of the Federal lands proposed for development under the approved partial mining plan. As the operation progresses and production begins, we will periodically review the adequacy of the bond for reclamation, royalty, and rental liability.

The approval letter to the company (copy attached) stated that a reclamation bond should be posted with the State of Utah for these operations. As this is not in accordance with the MOU, a letter clarifying the bonding requirements will be sent to the Crystal Peak Minerals Corporation.

If you have questions or comments concerning this letter please contact Sam Rowley at 896-8221.

Sincerely,

Monald & Handleton

Donald L. Pendleton District Manager

Attachment:
As stated above.

CCArea Manager, Warm Springs R.A.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT RICHFIELD DISTRICT OFFICE 150 EAST 900 NORTH RICHFIELD, UTAH 84701

IN REPLY

3590 U-37863 U-37912 (U-050)

February 1, 1988

Larry Sowers, General Manager Crystal Peak Minerals Corporation P.O. Box 100 Milford, Utah 84751

Dear Mr. Sowers:

On December 9, 1987, we received copies of your partial mine plan of operations for 1988 on the Sevier Lake Project on Federal potassium leases U-37863 through U-37912. A copy of the plan was provided to the Utah Division of Oil, Gas, and Mining (UDOGM). The plan has been reviewed and found to be in accordance with regulations at 43 CFR 3500 including applicable requirements in 3592 and in particular 3592.1(f) pertaining to partial mining plans.

An environmental analysis was completed for your proposed operation on September 25, 1987. The analysis addressed the full scope of your proposal to develop Federal potassium leases U-37863 through U-37912. The partial plan entitled "Planned 1988 Development Activities" was evaluated within the scope of the environmental analysis. It was determined that there would be no significant impacts associated with your proposed operation and therefore an Environmental Impact Statement is not required.

Crystal Peak Minerals Corporation and its operators will be required to meet all of the terms and conditions of the regulations and the Federal leases, including all special stipulations. Accordingly the partial plan entitled "Planned 1988 Development Activities" is approved subject to the above terms and the following conditions of approval:

- The lessee will be responsible for obtaining any approvals, permits, etc. required by UDOMG as a result of operations authorized in accordance with this approval.
- 2. Only those operations proposed under the partial mining plan submitted December 1, 1987 are approved. Any proposed changes in this plan must be submitted to this office.

- 3. A reclamation bond shall be posted with the State of Utah, Division of Oil, Gas, and Mining for these operations. This bond shall be acceptable to the State of Utah and shall not be relinquished until all reclamation has been completed.
- 4. Should dust become a problem during construction operations, the equipment staging area and access roads shall be sprayed with water or magnesium chloride.
- 5. Any archaeological or paleontological resource found or uncovered during these operations shall be left untouched and the BLM District Manager, Richfield, notified immediately.
- Upon final abandonment of the site, all disturbed areas shall be reclaimed in accordance with the reclamation plan developed by the State of Utah, Division of Oil, Gas, and Mining.

If you have questions concerning this approval, please contact me at (801) 896-8221 or Allan Vance at (801) 524-3106.

Sincerely,

Donald L. Pendleton
District Manager

Attachment
Copy of Approved Plan (No. 5)